

In re application of Hsing-Yao Chen and
Hsiang-Lin Chang
Serial No. 10/073,560

AMENDMENTS IN THE CLAIMS

1. (Cancelled)
2. (Currently Amended) The electron gun of claim [1] 15 wherein the CRT is a color CRT having three cathodes for providing three groups of energetic electrons, and wherein each of said first charged grids includes three apertures each adapted to receive and form a respective group of energetic electrons into an elongated, narrow beam.
3. (Original) The electron gun of claim 2 wherein the three apertures in each of said first charged grids are arranged in an inline array.
4. (Currently Amended) The electron gun of claim [1] 15 wherein said BFR includes a [first] G1 control grid, a [second] G2 screen grid, and a bottom portion of a [third] G3 grid.
5. (Currently Amended) The electron gun of claim 4 wherein said electrostatic lens includes a top portion of said [third] G3 grid and plural spaced aligned focus grids disposed intermediate said [third] G3 grid and the display screen.
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)

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13. (Currently Amended) [The electron gun of claim 12 wherein the CRT includes plural electron beams for producing a color video image on the display screen, and wherein] An electron gun for use in a cathode ray tube (CRT) having plural electron beams for producing a color video image on a display screen, said electron gun comprising:

5 a cathode for providing energetic electrons;
 a beam forming region (BFR) aligned with said cathode and disposed intermediate said cathode and the display screen for receiving and forming said energetic electrons into a narrow beam, said BFR including plural spaced first charged grids each having one or more first aligned apertures, wherein said electrons are directed through said first aligned apertures and said electron beam increases in cross section in proceeding from said BFR toward the display screen; and
 an electrostatic lens disposed intermediate said BFR and the display screen and including plural spaced second grids charged by a respective focus voltage, each of said second grids having one or more second aligned apertures through which said electron beam is directed for focusing said electron beam on the display screen, wherein said second aligned apertures decrease in size in proceeding in a direction from the display screen toward said BFR for increasing focusing sensitivity of said electrostatic lens on the electron beam while decreasing said focus voltages, said electrostatic lens including a dynamic quadrupole and said second grids including a third grid having a fixed focus voltage and fourth grid having a dynamic focus voltage, said third grid
10 [includes] including plural spaced apertures for passing a respective electron beam and said fourth grid [includes] including a single common aperture for passing said plural electron beams, said single common aperture having plural spaced enlarged portions each aligned with a respective

In re application of Hsing-Yao Chen and
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Serial No. 10/073,560

aperture in said third grid and adapted for passing a respective electron beam, and wherein each enlarged portion is larger than an aligned beam passing aperture in said third grid, and wherein said fourth grid is disposed intermediate said third grid and the display screen.

14. (Currently Amended) [The electron gun of claim 12 wherein the CRT includes plural electron beams for producing a color video image on the display screen, and wherein] An electron gun for use in a cathode ray tube (CRT) including plural electron beams for producing a color video image on a display screen, said electron gun comprising:

- 5 a cathode for providing energetic electrons;
- 10 a beam forming region (BFR) aligned with said cathode and disposed intermediate said cathode and the display screen for receiving and forming said energetic electrons into a narrow beam, said BFR including plural spaced first charged grids each having one or more first aligned apertures, wherein said electrons are directed through said first aligned apertures and said electron beam increases in cross section in proceeding from said BFR toward the display screen; and
- 15 an electrostatic lens disposed intermediate said BFR and the display screen and including plural spaced second grids charged by a respective focus voltage, each of said second grids having one or more second aligned apertures through which said electron beam is directed for focusing said electron beam on the display screen, wherein said second aligned apertures decrease in size in proceeding in a direction from the display screen toward said BFR for increasing focusing sensitivity of said electrostatic lens on the electron beam while decreasing said focus voltages, said electrostatic lens including a dynamic quadrupole and said second grids including a third grid having a fixed focus voltage and fourth grid having a dynamic focus voltage, said third grid

In re application of Hsing-Yao Chen and
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[includes] including plural spaced apertures for passing a respective electron beam and said fourth grid [includes] including a single common aperture for passing said plural electron beams, said single common aperture having plural spaced enlarged portions each aligned with a respective aperture in said third grid and adapted for passing a respective electron beam, and wherein each enlarged portion is smaller than an aligned beam passing aperture in said third grid, and wherein said third grid is disposed intermediate said fourth grid and the display screen.

20 15. (Previously presented) An electron gun for use in a cathode ray tube (CRT) for producing a video image on a display screen, said electron gun comprising:

a cathode for providing energetic electrons;

5 a beam forming region (BFR) aligned with said cathode and disposed intermediate said cathode and the display screen for receiving and forming said energetic electrons into a narrow beam, said BFR including plural spaced first charged grids each having one or more first aligned apertures, wherein said electrons are directed through said first aligned apertures and said electron beam increases in cross section in proceeding from said BFR toward the display screen; and

10 an electrostatic lens disposed intermediate said BFR and the display screen and including plural spaced second grids charged by a respective focus voltage, each of said second grids having one or more second aligned apertures through which said electron beam is directed for focusing said electron beam on the display screen, said electrostatic lens including first and second dynamic quadrupoles each having a respective third grid and a respective fourth grid, wherein each of said third grids includes plural spaced apertures for passing a respective electron beam and each of said fourth grids includes a single common aperture having plural spaced aligned portions each adapted

In re application of Hsing-Yao Chen and
Hsiang-Lin Chang
Serial No. 10/073,560

for passing a respective electron beam, and wherein each spaced aperture in each of said third grids is larger than an aligned enlarged portion of the single common aperture in an associated fourth grid when said fourth grid is disposed intermediate said cathode and its associated third grid, and is smaller than an aligned enlarged portion of the single common aperture in an

20 associated fourth grid when said third grid is disposed intermediate said cathode and its associated fourth grid.